## CLAIMS

What is claimed is:

1. An isolated nucleic acid fragment encoding a PC4(P15) Type 1 transcriptional coactivator comprising a member selected from the group consisting of:

(a) an isolated nucleic acid fragment encoding an amino acid sequence that is at least 90 amino acids in length and is at least 80% identical to the amino acid sequence set forth in a member selected from the group consisting of SEQ ID NO:2, 6, 8, 10 and 12;

(b) an isolated nucleic acid fragment that is complementary to (a).

2. The isolated nucleic acid fragment of Claim 1 wherein nucleic acid fragment is a functional RNA.

3. The isolated nucleic acid fragment of Claim 1 wherein the nucleotide sequence of the fragment comprises the sequence set forth in a member selected from the group consisting of SEQ ID NO:1, 5, 7, 9 and 11.

4. A chimeric gene comprising the nucleic acid fragment of Claim 1 operably linked to suitable regulatory sequences.

5. A transformed host cell comprising the chimeric gene of Claim 4.

6. A PC4(P15) Type 1 transcriptional coactivator polypeptide comprising all or a substantial portion of the amino acid sequence set forth in a member selected from the group consisting of SEQ ID NO:2, 6, 8, 10 and 12.

7. An isolated nucleic acid fragment encoding a functional PC4(P15) Type 1 transcriptional coactivator comprising a member selected from the group consisting of:

(a) an isolated nucleic acid fragment encoding an amino acid sequence that is at least 90 amino acids in length and is at least 80% identical to the amino acid sequence set forth in SEQ ID NO:4;

(b) an isolated nucleic acid fragment that is complementary to (a).

8. The isolated nucleic acid fragment of Claim 7 wherein nucleic acid fragment is a functional RNA.

9. The isolated nucleic acid fragment of Claim 7 wherein the nucleotide sequence of the fragment comprises the sequence set forth in SEQ ID NO:3.

10. A chimeric gene comprising the nucleic acid fragment of Claim 7 operably linked to suitable regulatory sequences.

11. A transformed host cell comprising the chimeric gene of Claim 10.

12. A PC4(P15) Type 1 transcriptional coactivator polypeptide comprising all or a substantial portion of the amino acid sequence set forth in SEQ ID NO:4.

13. An isolated nucleic acid fragment encoding a PC4(P15) Type 2 transcriptional coactivator comprising a member selected from the group consisting of:

(a) an isolated nucleic acid fragment encoding a amino acid sequence that is at least 100 amino acids in length and is at least 80% identical to the amino acid sequence set forth in a member selected from the group consisting of SEQ ID NO:14, 16 and 18;

(b) an isolated nucleic acid fragment that is complementary to (a).

14. The isolated nucleic acid fragment of Claim 13 wherein nucleic acid fragment is a functional RNA.

15. The isolated nucleic acid fragment of Claim 13 wherein the nucleotide sequence of the fragment comprises the sequence set forth in a member selected from the group consisting of SEQ ID NO:14, 16 and 18.

16. A chimeric gene comprising the nucleic acid fragment of Claim 13 operably linked to suitable regulatory sequences.

17. A transformed host cell comprising the chimeric gene of Claim 16.

18. A PC4(P15) Type 2 transcriptional coactivator polypeptide comprising all or a substantial portion of the amino acid sequence set forth in a member selected from the group consisting of SEQ ID NO:14, 16 and 18.

19. A method of altering the level of expression of a PC4 transcription coactivator in a host cell comprising:

(a) transforming a host cell with the chimeric gene of any of Claims 4, 10 and 16; and

(b) growing the transformed host cell produced in step (a) under conditions that are suitable for expression of the chimeric gene

wherein expression of the chimeric gene results in production of altered levels of a PC4 transcription coactivator in the transformed host cell.

20. A method of obtaining a nucleic acid fragment encoding all or a substantial portion of the amino acid sequence encoding a PC4 transcription coactivator comprising:

(a) probing a cDNA or genomic library with the nucleic acid fragment of any of Claims 1, 7 and 13;

(b) identifying a DNA clone that hybridizes with the nucleic acid fragment of any of Claims 1, 7 and 13;

(c) isolating the DNA clone identified in step (b); and

(d) sequencing the cDNA or genomic fragment that comprises the clone isolated in step (c)

wherein the sequenced nucleic acid fragment encodes all or a substantial portion of the amino acid sequence encoding a PC4 transcription coactivator.

21. A method of obtaining a nucleic acid fragment encoding a substantial portion of an amino acid sequence encoding a PC4 transcription coactivator comprising:

(a) synthesizing an oligonucleotide primer corresponding to a portion of the sequence set forth in any of SEQ ID NOs:1, 3, 5, 7, 9, 11, 13, 15 and 17; and

(b) amplifying a cDNA insert present in a cloning vector using the oligonucleotide primer of step (a) and a primer representing sequences of the cloning vector

wherein the amplified nucleic acid fragment encodes a substantial portion of an amino acid sequence encoding a PC4 transcription coactivator.

22. The product of the method of Claim 20.

23. The product of the method of Claim 21.